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AMENDMENTS GROUP 1700

Amendments to the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application. Amendments to the claims are shown by strikethrough for deleted matter or underlining for added matter.

Please cancel claim 1, without prejudice or disclaimer.

Please amend claim 2 as noted below.

In the Claims

1. (cancelled)

2. (currently amended) A process for time-based proportional control of chemical values in a water treatment system wherein a measured signal value is generated, comprising the steps:
selecting an offset sensitivity value; and
calculating a setpoint offset value (SOV) to determine said measured signal value;
wherein said measured signal value approximates an ideal proportional control response,
and

wherein said setpoint offset value is calculated according to the formula

SOV = (SD/PB)* OS * PB

where SD equals the sustained deviation from setpoint, PB equals Proportional Band Width, and OS equals Offset Sensitivity Value.

3. (Original) In a process for time-based proportional control of chemical values in a water treatment system wherein a measured signal value is generated, the improvement comprising:
modifying said measured signal value to be within a range defined by a particular proportional band width;
verifying that said signal value lies within a hysteresis value about a particularly defined setpoint;

measuring said signal value to confirm that said signal value is steady or retreating from said setpoint during a selected time duration;

selecting an offset sensitivity value; and

calculating a setpoint offset value (SOV) according to the formula

$$\text{SOV} = (\text{SD}/\text{PB}) * \text{OS} * \text{PB}$$

where SD equals the sustained deviation from setpoint

PB equals Proportional Band Width

OS equals Offset Sensitivity Value;

wherein said measured signal value approximates an ideal proportional control response.

4. (Original) A process in accordance with claim 3 wherein:

said particular proportional band width is between about 5 and 500 mV.

5. (Original) A process in accordance with claim 3 wherein:

said particular proportional band width is between about 0.1 and 5.0 pH units.

6. (Original) A process in accordance with claim 3 wherein:

said particular proportional band width is between about 10 and 5000 microsiemens.

7. (Original) A process in accordance with claim 3 wherein:

said time base is between about 15 and 600 seconds.

8. (Original) A process in accordance with claim 3 wherein:

said selected time duration is a multiple of the time base.

9. (Original) A process in accordance with claim 3 wherein:

said hysteresis value is between about 0 and 10 mV.

10. (Original) A process in accordance with claim 3 wherein:

said hysteresis value is between about 0 and 1.0 pH units.

11. (Original) A process in accordance with claim 3 wherein:
said particular proportional band width is between about 0 and 1000 microsiemens.
12. (Original) A process in accordance with claim 3 wherein said setpoint is between about 150 and 780 mV.
13. (Original) A process in accordance with claim 3 wherein:
said setpoint is between about 2 and 12 pH units.
14. (Original) A process in accordance with claim 3 wherein:
said setpoint is between about 1000 and 4000 microsiemens.
15. (Original) A process in accordance with claim 3 wherein:
said offset sensitivity value is within the range of about 0 and 100 percent.